

The Surrey Amateur Radio Club

Communicator



Summer 2015



Field Day 2015 Special Edition

SURREY AMATEUR RADIO CLUB

TELEPHONE & ADDRESS

(604) 591-1825

12144 - 57A Avenue
Surrey, BC V3X 2S3
SARC@ve7sar.net

EDITOR

John Schouten VE7TI
SARCcommunicator
@outlook.com

WEBMASTER

Howard Ticzon VA7HTZ

NET MANAGER

Rob Gilchrist VE7CZV

QSL MANAGER

Heinz Buhrig VA7AQ

REPEATER MANAGER

George Merchant VE7QH

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This is a special edition of the Communicator dedicated to a review of our recent Field Day efforts.

We have contributions from many of the planners and participants and many photos. As in previous years, there will be a Field Day 2015 video that will be shown at a future meeting.

This proved to be a **hot** weekend weather-wise, but for propagation, well... not so much.

From an operating perspective working QRP 3A (less than 5 Watt power) was an interesting experience but the end result was good, thanks to the scoring boost for working QRP entirely on emergency power.

An event this successful doesn't just happen, it takes a large amount of preparation and planning, almost a year to be exact, and there are too many people to thank individually in this column, but special mention to Stan Williams VA7NF, who took on the position of Chief Planner and completed it despite some QRP doubters. Thank you Stan!

Thank you also to the City of Surrey and especially Deputy Fire Chief Dan Barnscher, and to our other visiting VIPs. Your attendance means a lot to us.

Recognition as well to our corporate sponsors, specifically Burnaby Radio, Super Save for the donation of Field Day portapotties and United Rentals for the man-lift. Please support them if you require their products or services.

~ John Schouten VE7TI
Communicator Editor

Thanks to all our contributing photographers, **Field Day 2015** and other SARC photos may be viewed on-line here:

tinyurl.com/SARC-FD5-Photos

On The Cover...

Our cover photo this month was taken by Hiu VE7YXG on Field Day Saturday. It shows guests signing in to our public information table prior to a site tour. Hiu is the winner of our photo contest. Congratulations!



What Is and Why Do We Have Field Day?

"Field Day" is the climax of the week long "Amateur Radio Week", celebrated throughout North America, and locally through a civic proclamation by Surrey City Council. Self-sufficiency is the key.

Using only emergency power supplies, ham operators construct emergency stations in parks, shopping malls, schools and backyards around the country and operate without commercial infrastructure for the duration of the 24-hour exercise. Our slogan, "When All Else Fails, Ham Radio Works" is more than just words to hams, as we prove we can send messages in many forms without the use of phone systems, Internet or any other infrastructure that can be compromised in a crisis. More than 38,000 amateur radio operators across the continent participated in last year's event.

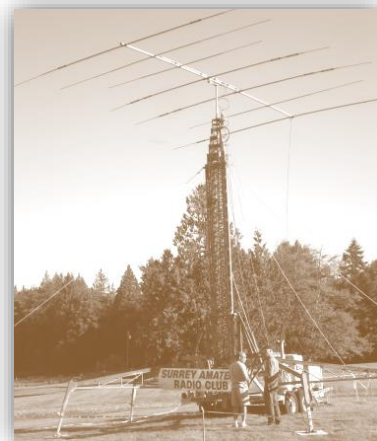
It's more than that though. It's an opportunity to socialize, meet the public, and it is a contest with points for the most contacts and bonus activities.

How Did Field Day Start?

Steeped in tradition and mystery, today's Field Day evolved from humble beginnings in the Golden Age of Radio. Anything but stable, Field Day rules and practices have changed radically since the 1930s.

A one-column announcement in the June 1933 QST states that, for 27 hours starting the second Saturday in June at 4 PM local time (no daylight savings yet!), there would be an opportunity for "portables" to go into the field to contact as many stations as possible. Says F. E. Handy, W1BDI, in the announcement, "The real object of this contest is to test 'portables' wherever they may be available.... If successful, we want to make it an annual affair." To score the event, each QSO with fixed stations will count 1 point, contacts with other portables count 2 points, and DX contacts count 3 points. Multiply QSO points by the total number of ARRL sections, plus countries worked. No mention is made of a required exchange, which clearly must include an ARRL section!

Read the full text in a 1999 QST article available at URL:
<http://www.saraclub.net/Images/History%20of%20Field%20Day.pdf>



The **SARC Communicator** is published monthly except July and August for members of the Surrey Amateur Radio Club.

To subscribe, unsubscribe or change your address for e-mail delivery of this newsletter, notify SARCcommunicator@outlook.com

Non-members living in the Greater Vancouver area may receive one trial issue.

Beyond our membership area, annual Communicator subscriptions are available for a \$5 donation towards our Field Day fund.

SARC maintains a website at www.ve7sar.net that includes club history, meetings, news, photos and other information.



Summer 2015



PROCLAMATION

Amateur Radio Week

June 22 - 28, 2015

WHEREAS Amateur Radio operators are celebrating over a century of the miracle of the human voice broadcast over the airwaves; and

WHEREAS Amateur Radio has provided a bridge between peoples, societies and countries by creating friendships and the sharing of ideas; and

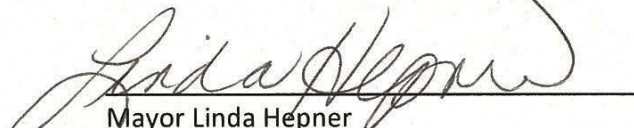
WHEREAS the City of Surrey has several hundred licensed Amateur Radio operators who provide radio communications during emergencies and public service events; and

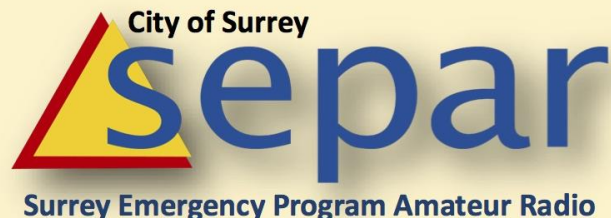
WHEREAS Amateur Radio operators in the City of Surrey donate their services without compensation; and

WHEREAS Amateur Radio operators are on alert for any emergency local, regional or worldwide; and

WHEREAS the Amateur Radio Field Day exercise will take place on June 27 and 28, 2015 demonstrating Radio Amateurs' skills and readiness to provide self-supporting communications without the need for additional infrastructure;

NOW, THEREFORE, BE IT RESOLVED that I, Linda Hepner, do hereby declare the week of June 22 - 28, 2015 as "Amateur Radio Week" in the City of Surrey, in recognition of this important emergency preparedness exercise.


Mayor Linda Hepner
City of Surrey



Invite you to attend **Amateur Radio Field Day**

Operating for 24 hours from 11am Saturday, June 27th

Opening Ceremony at 10:30am

NW Corner of 176th Street at 20th Avenue, Surrey
(The former Grandview Heights School grounds)

More than 35,000 hams from across North America and beyond compete for points earned by setting up a station and operating for 24 hours without commercial infrastructure. The contest component is to work as many stations as possible on any and all amateur bands and to learn to operate in abnormal situations and less than optimal conditions, as would be the case in a disaster.

On Saturday from 11am until 5 PM:

- Hands-on Childrens Activities
- Come Find The 'Fox' Transmitter Hunt
- Space Satellite Contacts
- ... and more

For Additional Information

VE7SAR.NET

Twitter: #VE7SAR



The Site



Grandview Heights School, c. 1922

In the 1920s, local parents began to lobby the School Board to build a new school so that children would not travel along remote country roads and through heavily treed areas to the Hall's Prairie School miles from their homes. Eventually a lot was chosen on the northeast corner of Stokes Road (20 Avenue) and Clover Valley Road (176 Street).

The School Board provided the land, materials and a head carpenter. Local residents cleared the bush, pulled out roots and leveled the site with a team of horses and a hand-held scraper. They erected a one-room school, a wood shed and two outhouses. As Alec McBeth was shingling the roof, he remarked that he could see Semiahmoo Bay, Blaine and all the surrounding countryside. He said, "What a grand view!" It was decided that this would be a good name for the school, originally spelled Grand View Heights.

A Good Place to Learn



Mrs. Hugh and the class of 1922

The building was completed and a ceremony held during the holiday weekend on May 24, 1922. The School Board announced that classes would not commence until September. Parents insisted that the children would begin school the next day and so Mrs. Delta Hugh was quickly recruited to start teaching on May 25. One of the pupils of the first class, Betty Huff, recalled that there was much excitement in the community when the school opened. Although it had no electricity and no central heating, it had an important place in the heart of the community. The school was typical of all schools of the period—it was painted grey outside, green inside, had an oiled wood floor, and a wood stove for heat. Water from a neighbour's well was carried to the school and stored in a crock.

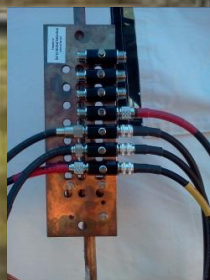
All of the community parties were held in the school. Local families walked there by the light of their barn lanterns. Once they arrived at the school, the lanterns were hung on ceiling hooks to illuminate the room. When the community grew, the old one-room school was preserved and valued for its heritage.

The Grandview Heights School site is a reasonably good Field Day site. 2015 was our fourth year at this location and our familiarity with the site shows in our results, which get better by the year.

It is on a hill with a good east view, ideal because most of our points come from the heavily populated US East coast.



The Gear...





Field Day Planning

Stan Williams VA7NF

This year's field day was interesting; a word which has as many meanings as readers. These are the views on "interesting" from the outgoing FD chair.

Starting with the ARRL goals which are to demonstrate a proficiency in emergency station setup and operation as demonstrated by a contact score and multiplier for transmitted power and emergency power sources. Additionally the ARRL rewards many "non-contesting" activities with bonus points. See the score summary for both scoring components.

Next we add in non-scored components which include a summer "year-end" party that includes a "work party" to assemble and set-up a three station emergency environment, another to take it down, and 24 hours in between to show it to the public, politicians and for other activities. We are the combined effort of two groups who severally and combined share the same goals.

So, how did we do? Well, interestingly! Starting six months earlier.

The FD committee: It was my job to stir-the-pot, at which I am well practiced, with discussions on site, antenna selection, and equipment grounding. But - I was out performed by Brett who noted that many of the FD top scores were obtained by QRP stations, as an aside includes 5W output power and battery only power. This was shortly followed by Jim who applied a 5W component to his propagation study and reported that we would gain more points on 20 and above but lose points on 40 and 80. The debate began.

Two QRP go/no go items surfaced being how much battery power is required with/without solar panel assist and how do we implement a higher gain 40M and 80M antenna to offset the lower (13db or 2 S units) power. So much for theory.

After much development time and tribulations FD Friday arrived. With thanks to the organizational side of the committee, all the equipment arrived Friday morning with very few forgotten items, and of course, the members that performed the deployment phase.

Interesting? How about the school security that "visited" the site Friday midnight and "requested" we vacate immediately - sure, certainly, and a few un-voiced comments from our security group. Also two weeks earlier the visit from the RCMP during an antenna test, because someone thought we were stealing community property.

The weather forecasting service suggested people stay inside or protect themselves from the hottest two days this year. There was a run on our iced water and beverage coolers all weekend. At least it was warm and dry, from the skies anyway; our eastern friends had cool and wet. Talk about role reversals.



There were many planning sessions, held at the home of John Brodie. They included some frank discussions on location, QRP and our ability to provide adequate power and make sufficient contacts to post a competitive score.

Contest activities were significantly affected by both propagation conditions and the lack of punch power. Jim capped up the frustrations by saying he learned “QRP sucks” in Russian and Italian and heard similar language in English as well, especially from the phone operating contingent. It was at 2AM we checked the scores and determined we had already passed the previous year’s score. Personal note, the 40M/80M antenna worked very well but with 100W it would have worked much better; it did however change the estimated drop in points to a QRP gain.

The public: What public? It seems they stayed at home or went to places like Redwood Park under the shade of all those trees.

Did I leave something out? Yes, batteries. A special thanks to the battery group, Al Neufeld assisted by Brett Garrett who proved that Murphey exists, many times over.

I won’t go into details here but, if you want a heroic epic just ask Al, “What about FD batteries?”

Thanks to all involved, and to those not involved you missed the fun, sweat, and acid burns. See you at the meetings and please consider FD 2016.

~ Field Day 2015 Chair
Stan Williams VA7NF

Thank you to all FD committee members for taking up the challenges, even just to say we tried.

To all members of both SEPAR and SARC that braved the heat to put on a fine performance.

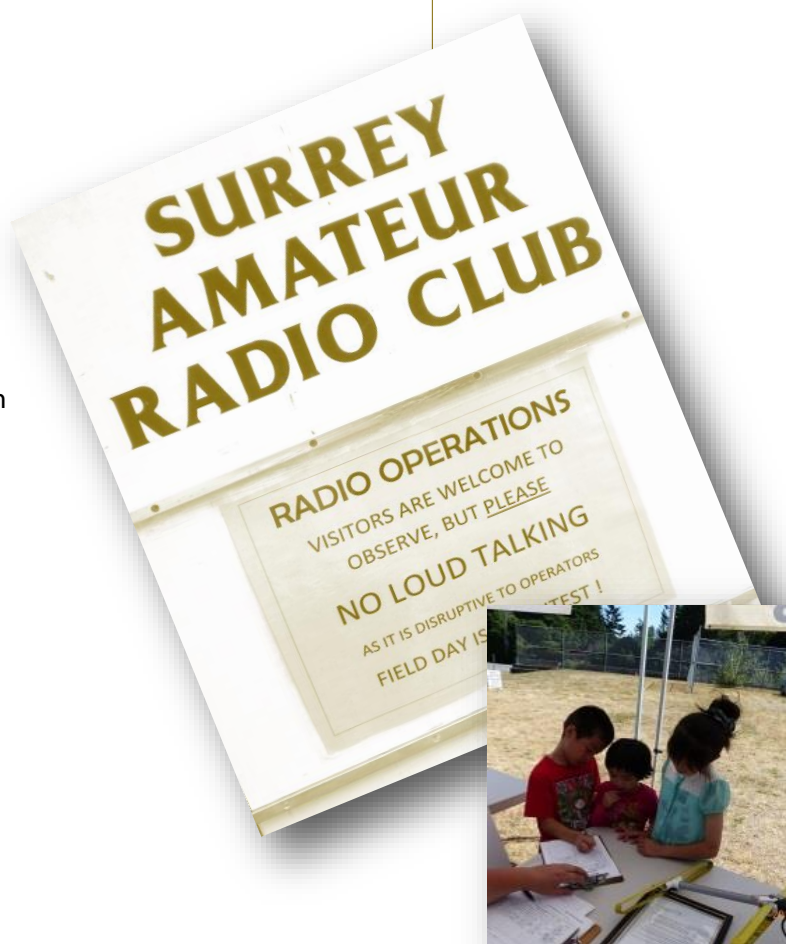
To the operators that adjusted to many unanswered calls yet pulled off excellent results.

Media & Information

It is difficult to get media attention for an event such as Field Day. Not that anyone thinks that emergency communications is unimportant, it’s just not news-worthy unless communications fails when most needed. Time and time again, throughout the world, Hams have provided de-centralized communications in times of emergency and provided the ability to pass traffic.

We were able to successfully have SARC-SEPAR Field Day included in several prominent community calendars, including the City of Surrey. A Media Release was prepared and sent out several days in advance of Field Day.

Throughout Field Day Twitter was used to post messages and photographs updating our event.



Special Visitors

We received visits from local elected officials from two levels of government and from served agencies. Representatives of three emergency services attended, as did Provincial Minister of Children and Family Development and MLA for Cloverdale Stephanie Cadieux, Surrey Councillor (Acting Mayor) Mary Martin and honorary SARC member, former Surrey Councillor, now MLA, Marvin Hunt, a long-time supporter of SARC and SEPAR.

We thank them all for attending.

*The opening ceremony. Both outgoing SARC President **John Brodie** and SEPAR Coordinator **Alan Saunders** commented on Field Day 2015. Above, RCMP Staff Sergeant **Ron Casey** resplendent in red serge. Councillor **Mary Martin** proclaims Amateur Radio Week on behalf of the Mayor and Council. She, Minister **Stephanie Cadieux** and MLA **Marvin Hunt** praised the work of our volunteers and officially opened the event at 11am.*



Left:

S/Sgt Ron Casey (RCMP), John Brodie, Mary Martin, Stephanie Cadieux, Marvin Hunt, Alan Saunders and MC John Schouten.

SEPAR Takes The Lead At Field Day 2015



Stan Williams VA7NF, a Director of both SARC and SEPAR volunteered to coordinate Field Day 20-15 planning with SEPAR as the 'lead' group.

The SEPAR mobile communications trailer was ready for use and by all accounts the radios functioned well. The trailer is now equipped with lighting, computers, packet modem and BCWARN all of which went a long way to providing a comfortable, secure operating unit. The trailer's BCWARN system was connected to a dish on the roof of Hall 14 where a link was established to provide an internet connection for the field day operation. The packet radio was available for messaging however messages were handled using voice communication on VHF. SEPAR passed 10 messages plus the message to the RAC Section Manager.

Peter, VE7PGX, passed formal messages via the traffic system.

Field Day is a once a year outing covering all of North America with the objective being to test our ability in providing emergency communications in the event of a disaster or emergency. This year SEPAR had an opportunity to field test our communications trailer and while it is still under construction the radio and digital equipment functioned very well. With some additional financing the communications trailer should be complete giving us expanded digital communications. The BCWARN dish mounting and new telescopic mast will enhance our ability to provide internet access and this is a priority for SEPAR.

SEPAR provided generators, pop up tents, the communications trailer and internet linking equipment to help make field day a success.

SEPAR



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Field Day QRM

...from the Editor's shack

*Do you have a photo or bit of club news to share?
An Interesting link?*

*Something to sell or something you are looking for?
eMail it to [SARCcommunicator @ outlook.com](mailto:SARCcommunicator@outlook.com) for inclusion in this column.*



*Some of the battery grunts.
Missing is Mike VE7ACN*

Field Day Photo Contest

As we promised in our pre-Field day editions, we offered a prize to the best, most interesting or funniest photo taken during the event—as long as it was suitable for publication. There were several entries including Stan, Hiu, Kapila, and Anton. The photo above was taken by Kapila and shows 'Sparky' Neufeld's battery lugging crew, decked out in his custom plastic aprons. It was the funniest of the collection of snapshots. But the best photo overall, as voted by the Field Day Committee, is this edition's cover page, taken by Hiu Yee VE7YXG.





Page 13—Field Day News You Can Lose

The Lighter Side of Amateur Radio

Overheard...

JOHNSON, Montana - A local ham radio operator says he had a "terrible and horrific" Field Day this year, all due to his lack of planning.

Dick Longfellow, a ham radio operator since 1963, says it's not the emergency preparedness training or the radio operating which excites him. "I go for the food. And I like to make a day out of it. I top off the fuel tank in the F-150 and I visit a minimum of five or six local amateur radio club Field Day operations so I can treat myself to a smorgasbord of flavorful goodness. I travel all over the state."

But this year, Longfellow - who weighs in at well over 300 pounds - says he left the loose leaf binder with his food plan somewhere in his shack and couldn't find it when it came time to depart. So he set out on his annual pilgrimage with only memory to guide him. "My first stop was at the Golden Spike Amateur Radio Club set up in Glacier National Park. They had just set out the salad table fixin's when I arrived. So that's a great way to start the day. Not everyone likes macaroni salad at 9 a.m., but I'm not really adverse to it." The day took a sour turn, says the retired oil pipeline supervisor, when he got to his second stop. "Upon arriving at the Big Sky Amateur Radio Club event just outside of Butte, I knew something was wrong. It was 11 a.m. and they only had desserts out.

I intended to align my arrival with the cooking of burgers and brats, but I was about two hours too early. It was only then I realized the shocking truth: I was supposed to be in Missoula." Longfellow says it was "physically impossible" to get back on schedule after his travel faux pas; particularly disappointing was his last stop of the day - Bozeman, Montana, just as the last slice of meatloaf was being eaten. "I have no one to blame but myself," he admits. "Good Field Day execution relies on weeks of planning followed by flawless execution. I dropped the ball, plain and simple."

Longfellow says he may have found a solution for next year's Field Day. He will be setting up a GOTA station next to the chocolate fountain at the Golden Corral in Bozeman. "I can visit with people between the banana pudding and the 'endless' beef tips. I think it will be a great way to attract new people into the hobby," he declares.

~HamHijinks.com



"I go for the food," says Longfellow, seen here on his way to the food tent at the Creek County Communicators field day event.

Other Field Day Activities

Satellite Contacts

After several practice days of testing and experimentation with the SARC Satellite Group, we successfully completed three QSOs on Field Day Saturday earning us an additional 100 points (actually 102 as the second and third contacts count as only 1 point each).

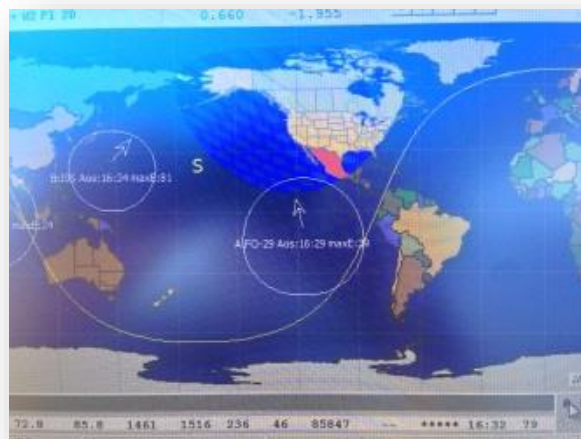
John Brodie transported his satellite station from home to the site and it was set-up beside the main operating tent. We had interest from our distinguished guests, SARC and SEPAR members and a few other visitors.

There were not many good passes but we did work consecutive passes of FO-29 and AO-7, the latter being an older and somewhat temperamental satellite known for its unpredictability.

- 1530 W0GO SSB 19A 1A on AO-07
- 1540 W0GO SSB 19A 1A on FO-29
- 1545 VA7MM SSB 2E BC on FO-29

The QSOs were rapid and the sats were busy as many FD crews attempted their contacts but the results were better than expected.

Unfortunately NASA and AMSAT announced prior to Field Day that the ISS Astronauts would not likely be available to work passes over North America as prior technical problems with the Russian module kept them otherwise occupied. We'll hope that is resolved for Field Day 2016.





QRP = Field Day Power

A Battery of Batteries!

Al Neufeld VE7CDC

When the SARC Field Day (FD) plans for 2015 began to be discussed, I again volunteered to look after power. I mean, what's so difficult about making sure the generators, gas, and power cables get to the FD site, and are organized for the usual operating areas and food tents? Piece of cake! Set up the generator (main plus a spare), run the cords for 3A, top up the fuel tanks, kick back and relax! Hassle Nicole, reminisce with Fred, swat flies and kibitz with Anton! (Dit dit dah dit, dah dit dit dit, dah dah dah, dah dah!!!) What could be a better way to spend the last weekend in June?

Then about the second planning meeting they spring the trap..... This year it's gonna be QRP and 3AB! No generators for actual operations, but still 3 stations, and all stations to run using renewable power resources, (or as some call it 'natural power', ie, solar power, wind or pedal power, etc!) and all stations still to have networked computers and external monitors! All running off the power as noted above! Smoley Hokes! I may have been slouched in my seat before, but that got my attention and I was now sitting upright! Hey! Time Out!!

Q. OK guys, how many amps does a K3 take on transmit?

A. Oh, maybe just 1.5A... just got two K3's, the other is an Icom. 'Dunno right now how much that takes.

Q. How about the computers?

A. 'Dunno... New mini-computers... just a bit! (Ya, right!)

Q. How about the monitors?

A. Probably need 2 monitors per station! (What???)

Well, I went home fully awake, and got out a calculator.

Let's see.

K3 - 1.3 A, 1.5A on transmit for 5 watts (maybe up to 50% duty cycle for good operator)

Computer - 2A est.

ONE Monitor - 3A each! (have to run them on 120v inverter, so additional inverter losses need to be included!)

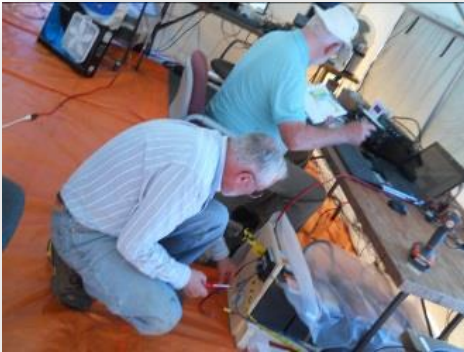
Initial estimate per station... 7A for K3 stations and 9A for Icom station. Total amps for FD.....

But Wait a minute! They said we will be operating a 4th station... a VHF/UHF "free" station, still under 3AB and also to be powered by the batteries!! An Icom with a laptop and external monitor! Let's see. It will probably only run half the time so, 9A at 50% is about 4.5 amps! (hourly for 24hrs).

So, 2-K3's at 7A, one Icom at 9A, and one at 4.5A, totals 27.5 amps for 24 hours is 660 amp/hours (AH) of battery power. But Wait... (sounds like a Shopping Channel ad, doesn't it!) The average new car battery is about a true 80-90 real AHs so we are going to need about ten 12v batteries. But Wait... the batteries we will beg, borrow or steal for this project will all belong to someone else, and common sense and most published information says that if you discharge a battery, even a deep discharge battery, more than 50 percent of its capacity, then you will permanently shorten the life of the battery! So we can't abuse someone else's battery in good conscience, so we can only use half of the battery's rated capacity! So we actually need about 1,320AH's of rated battery capacity to conduct the 3AB Field Day that was



Summer 2015



Well, the first step was to tell the FD operators that they were limited to 7A total consumption for each station on FD. That raised a few eyebrows!

envisioned! (Wow! Double the battery count!)

We visited about half a dozen commercial battery suppliers requesting the loan of several high AH capacity (375-450AH) deep cycle batteries with the general response being 'Real sorry, but lotsa luck with your Field Day!', it became clear that this was going to be a challenge!

But then, as if we had been good all year, we got news that there might be a source of used UPS batteries that we could borrow if we could come and get them, and return them after we were finished! These were factory-rated at about 83AH each, and since they were 4-5 years old, and had a 10 year life, and since batteries degrade over time, we estimated that these batteries might have an actual capacity of about 75% of new capacity.

Well, we immediately called and were blessed with the loan of 23 12v batteries! (20 plus 3 spares). But wait... it appeared that this battery capacity was going to weigh more than 1 lb per rated AH! Another 'Smoley Hokes'! At 70 lbs each, these batteries would weigh more than 1,600 pounds!!! Fortunately, we had available a 1 ton van that could carry and store the batteries for a time. But by the time we loaded and unloaded these batteries several times before and during FD, they felt like 150 lbs each by the end of the final loading! Funny how AGM lead-acid batteries 'grow' on you!

Well, the first step was to tell the FD operators that they were limited to 7A total consumption for each station on FD. That raised a few eyebrows!

Then we would need to unload and recharge the batteries and test them for true aged capacity, so that we could determine if we had enough capacity to last 24 FD hours. Fortunately, Brett, VE7GM became part of the battery crew at this time, and we developed a sophisticated battery testing regimen consisting of a voltmeter, charger, 3 old headlights, and an ammeter (the headlights were used after a quasi-professional, purchased load-meter offered smoke instead of information on its 3rd application! The headlights proved far more reliable, and produced information to one decimal point! The tester was returned to its vendor in disgrace! They were used to test several small banks of batteries at a 10 hour discharge rate. Thus we determined that the 50% point of battery capacity was actually a useable 30AH per battery (60AH for a

theoretical 100% discharge). This would require 22 batteries to finish the 24 hrs of FD! That's cutting it a bit fine! (A typical 12v AGM battery has a 100% charge of 12.6v. It reaches about 50% discharge at 12v unloaded, or at about 11.7-11.8v with a 10A load attached.) Some of the radio equipment was thought to die at lower than 11.7v, so that was another reason to only discharge to 50%. It seemed that we had enough AHs to last through FD if no other items of discouragement became apparent.

It appeared that we would have enough AH's for all of the 24 hours... just! We loaded up the batteries again, and moved over to Fred's (VE7IO) garage to give us enough room to test the batteries on an assembled station. There we unloaded the batteries, recharged them and hooked them up. That provided a bit of sobering information as the assembled Icom station sucked up 12 amps using a partially discharged laptop as station computer! This consumption dropped as the computer batteries were replenished by the charger (which was plugged into the inverter!). The lesson here... start with a 100% battery in the laptop! The K3 assembled station varied from 6.5 to 7.5 amps.

We recharged and reloaded the batteries in preparation for transport to the FD site. There we again unloaded the batteries and set them up in four banks, one for each station. (Boy, with a couple of booster cables we could have welded some balcony rails with those battery packs, or something!) With a bit of care and warnings we avoided becoming spark-gap transmitters or providing other sparkling events!

Previously, after some thought we became concerned that if this 3AB attempt was to be given the best possibility of success we needed a bit of power insurance so that the ball would be totally out of the 'Power' group's court! Having also canvassed several Solar panel suppliers for the loan of some



panels, it was apparent that the local contribution of several hundred watts of 'sun insurance' would not be forthcoming, so 4 one-hundred watt panels were shipped here from out of town, and that kept our batteries topped up throughout the daylight hours of FD. The lowest solar-supplemented battery voltage we recorded during the twilight hours was 12.3v with a couple tenths lower during the Saturday overnight hours of FD.

The power necessary to support a SARC 3AB QRP attempt was possible by utilizing almost a ton of batteries. The power required by the actual radios of FD was only about 20-25% of the amount deemed necessary to conduct the exercise. The ancillary equipment such as computers and monitors employed to log and display information at each station consumed more than 75% of the power. In an actual event where QRP operation was necessary, such as a crisis situation, the actual communications could be carried out at a much lower level of power consumption. Or, that same amount of power, if available, could be used to increase RF power out, with a much greater likely hood of assured success.

We had a fair amount of frustrating fun in completing our part of FD 2015, and the experience could fill an additional several pages, but 'Newsletter John' is (im)patiently tapping his fingers, so I'd better attach this and send him the email!

Our thanks to Bill Gipps (VE7XS) who generously granted us the loan of a 'ton' of batteries, and to Brett for his willing engineering support! But Wait... a special word of thanks to all the 'grunts' who helped load those @#%&***# batteries in and out of the van!!

~ Al Neufeld VE7CDC



Al 'Sparky' Neufeld (background) monitors his power plant as Mike happily says 'Watts Up!' and makes a few more FD QSOs.

Our 3AB QRP attempt was possible by utilizing almost a ton of batteries.





Our 2015 Results

The Contest Contender

Jim Smith VE7FO

Field Day 2015 Fundamental Decisions

GOTA

Last year we made a big effort to ensure that the GOTA station had access to decent antennas and bands. Due to having only 3 bands open at any given time, the only way to do this was to drop back from the 3 transmitter class to 2 transmitters to make room for GOTA.

While this enabled the GOTA station to make decent contacts, it turned out that no individual was able to make enough QSOs to generate any GOTA Bonus Points. In addition, with only 2 HF contesting op positions there was less operating time available for those who had been working on improving their op skills.

It was decided that, as too many resources were required to support the GOTA station in order to get the few points available for having one, there would be no GOTA station this year and we would operate 3 HF positions in Class 3A along with the "Free" VHF/UHF position. This freed up 24 hours of op time.

QRP

One of the Committee members noted that in past FDs certain QRP stations ranked very high in the overall standings in spite of being limited to 5W output power and that perhaps we should try this. My personal view, which I believe was shared by other committee members, was, "Good Grief. You're not going to make many QSOs with only 5W! Forget it!" Still, the record shows that some clubs were able to make lots of 5W QSOs.

Some time ago I developed a spreadsheet to predict how many HF QSOs would be available to us from many different parts of the US on a half-hourly basis, taking into account power output, propagation conditions, antenna patterns and US population statistics.

While the tool is a little crude it is very useful for comparing antenna possibilities. With a slight modification it is now very useful for comparing power levels for a given set of propagation conditions and antenna patterns.

So, I called up the QSO model from a previous year, changed the power level from 100W to 5W and looked at the change in QSO and Point availabilities. The results surprised us all.

As expected, the QSO total went down. However, because QRP QSO points are multiplied by 5 while 100W QSO points are multiplied by only 2, the model showed that, with QRP, we'd be way ahead on the high bands but, with dipoles on the low bands, we'd suck pretty badly. Still, the overall predicted total was so high that it turned into a no-brainer and, with some consideration of ramifications, it was decided to go QRP or Class 3AB.

NEGATIVE RAMIFICATIONS

Battery power

If you're going to enter Class 3AB you cannot use a generator to supply the power for any equipment that is used for making contacts and nor can one be used for charging batteries used for this purpose. Solar is OK.

Running 3 op positions on batteries is not trivial. Our Energizer Bunny (Al, VE7CDC) undertook a requirements and sourcing analysis. Once it appeared that we could do it and batteries were available, the decision was made to go ahead. A Plan B was developed for switching to 100W if, in the early going, we couldn't get anyone to hear us.

Low band issues

The analysis showed that dipoles, even at 100 ft, weren't going to cut it and we needed something with gain at low take-off angles. Otherwise we wouldn't make many

low band points and the ops would have a miserable time making what QSOs they could, especially the phone ops.

80m

Stan, VA7NF, developed a long wire antenna which could be fed at the same place on both 40 and 80m and which had significant low angle gain. This feed point duality made it possible to use it on both 40 and 80 simultaneously (but not 40 SSB) by means of a diplexer. A big plus in flexibility for the Station Manager

40m SSB

I looked through my antenna model library and found a 40m bobtail curtain array with significant low angle gain. The array consists of 2 sets of 3 verticals suspended with the vertical tops up around 100 ft.

Operator satisfaction issues

We are very fortunate to have two highly competent contest ops, one CW and one SSB. There is a term used in the contesting community for ops such as these - Rate Junkies. They get high on high contact rates. Two Qs a minute - yawn. Three a minute - that's better. Four a minute - now we're talking. Five a minute - keep 'em coming

QRP simply isn't going to support these kinds of rates and our junkies aren't going to get their fix.

We hoped that they would bear with us this year and we would review the QRP decision next year.

POSITIVE

With only 5W the likelihood of inter-position QRM is very small, particularly given the very high quality of the radios used. In particular, it may be possible to operate 20m SSB on, say, the Bigfoot tower, and 20m CW on the Ol' Yeller tower. This would be a huge advantage because it would double the number of high band/modes available for allocation by the Station Manager.

WHAT ACTUALLY HAPPENED

GOTA

Not implemented

QRP BATTERY POWER

It worked, stunningly well, thanks to the very hard work and dedication of our Energizer Bunny.

LOW BAND ISSUES

The long wire worked well on 40, not so well on 80.

Unfortunately, the manpower was not available to put up the 40m SSB bobtail curtain so we don't know how well it would have worked.

OPERATOR SATISFACTION

Through hearing it many times I learned to say the same phrase in both Russian and Italian. "QRP SUCKS!!"

I heard it several times in English, also.

Now, in a dedicated contest club operators often get assigned to poor bands. Their job is to squeeze as many Qs out of the band as possible, no matter how slow and difficult, and they accept that. However, SARC/SEPAR is not a contest club and our ops, quite reasonably, expect to be kept sufficiently busy for it to be a fun experience.

TWO RADIOS ON THE SAME BAND

This worked. We found that we could put one K3 on 20 phone, using the Bigfoot yagi, and the other on 20 CW, using the Ol' Yeller yagi. So long as the frequency spacing between them was greater than about 30 kHz or so there were no problems. We neglected to check whether or not we could do the same on 15 and 10m. However, given the spectacular results on 20, there should be no problem on 15 or 10 with 5W. We should also have checked with 100W but the fog of FD tends to wipe out rational thought.

SO HOW DID WE DO?

Very well indeed. Here is the score breakdown showing QSO points by band and mode.

Note that one phone QSO is worth 1 QSO point while one CW QSO is worth 2 QSO points.

	80	40	20	15	10	6	Sat	Total
CW	44	374	644	162	0	0	0	1224
SSB	14	6	101	13	0	5	3	142

Total QSO Points	1366	CONTESTING POINTS	6830
Power Multiplier	x5	BONUS POINTS	1250
Contesting Points	6830	TOTAL SCORE	8080

YEAR OVER YEAR COMPARISONS

Class	3A	3A	3A	3A	2A	3AB
Year	2010	2011	2012	2013	2014	2015
Contesting Points				5902	4986	6830
Bonus Points				1360	1270	1250
Total Score	3620	3720	5536	7262	6256	8080

Summer 2015

Class	3A	3A	3A	2A	2A	2A	3AB
Year	2011	2012	2013	2012	2013	2014	2014
#1 VE Score	4648	6442	7262	3982	3852	7218	No Entries
#1 VE Call	VE7SCC	VE3HB	VE7SAR	VE3RC	VE3RC	VE1FO	
#2 VE Score	3976	5536	7160	3980	3722	6256	
#2 VE Call	VE3RL	VE7LSY	VE3HB	VE1FO	VE7NSR	VE7SAR	
#3 VE Score	3720	4418	3594	3964	3036	6108	
#3 VE Call	VE7LSY	VE7SCC	VE2CVR	VE3SGB	VE7PCE	VE3HB	

The #1 VE score in 2014 was the 10A VE3MIS station with 7818 points. So there's a chance we might be #1 VE regardless of category in 2015.

VE7LSY was the call used when the Langley Club joined forces with us.

Year	Call	Score	Category
2007	VA3OQV	1745	3AB
2008	VE3OB	620	3AB
2009	VE3LM	2265	3AB
2010	VE3RSE	1895	3AB
2010	VE9BNB	780	3AB
2011	VE3RSE	2015	3AB

I looked through the ARRL Scores database for Canadian 3AB entries. There are very few.

Here are some overall 3AB scores from recent years.

2002 to 2006 and 2012 to 2014 no entries

Looks like we may have the Canadian record and a hard to beat one at that.

Class	3AB	3AB	3AB	3AB
Year	2011	2012	2013	2014
#1 Score	15165	19970	15865	15775
#1 Call	W5YA	W5YA	W5YA	W5YA
#2 Score	4380	6345	7355	4510
#2 Call	W7FST	W1IS	W1IS	W7FST
#3 Score	3560	5870	7160	4475
#3 Call	W5MSQ	W7FST	W4QRP	W7SAA

ALL PARTICIPANTS

Looks like we have a good shot at #2 in North America in our category.

Last year a score of 8,080 points would have been ranked as #85 out of 2687 participants, regardless of Category. This would place this score in the top 3% of all FD participants. Not too shabby for QRP.

RESOURCE ISSUES

Fred, VE7IO, wasn't able to participate in any of our planning or implementation activities. Fortunately for us he was able to make his place available as a testing/staging area and also put in several hours of op time.

Brett, VE7GM, was very active in the planning and battery setup phases but was otherwise unavailable.

I wasn't able to participate as much as in the past owing to increasing duties at home.

STAGING AREA

The idea of the staging area is to set up and test a complete HF FD station using all the gear that will be used on FD. It is very desirable to keep it set up for a week or two prior to FD. This can provide the following benefits:

- We find out if there are any problems with the equipment or its configuration, including RFI issues.
- We find out whether there are any missing pieces now instead of on FD.
- It provides an opportunity to train members to configure the gear for FD operation.

- d) It provides an opportunity to familiarize the ops with the gear.
- e) It provides an opportunity to train Station Managers.

For a variety of reasons, we didn't do so well on this year. I don't think there was ever a time when we had everything working at once. No training took place. We did get the opportunity to try out the humongous battery system which Al, VE7CDC, put together so successfully. Thanks also to those who turned out for the antenna dress rehearsal.

STATION MANAGER (SM)

We still haven't got this function working properly. The plan was to set up all the HF Op positions at the staging area a couple of weeks before FD and provide Station Manager and Op Training on them and on the tools used to determine which bands we should be on.

This didn't happen and only VA7XB and myself signed up for SM duties.

STATION MANAGER TOOLS

Modern technology has provided a number of tools which can be used during FD to monitor how we're doing and to help us decide which bands and modes we should be on at any given time.

Propagation Predictions

Before FD I usually generate propagation predictions for a number of areas in the US. These take into account the radiation patterns of the antennas which we have decided to use.

We also use this for evaluating any new antenna proposals which are put forward from time to time.

From this we generate an operator schedule, putting the most experienced ops on the high rate bands with an emphasis on CW as CW QSO's count two points as opposed to Phone's one point.

I didn't have time to do it this year.

We run HamCAP to provide propagation predictions during FD. However, we tend to pay more attention to what the spots are telling us (when we have them. (See the spots heading below.) It does alert us to possible band openings, though.

Progress Graphs

The major tool we use for measuring progress during the event is a software program called Athena. It draws graphs showing our QSOs, QSO Points and Score accumulated so far during FD. It draws another graph showing the same thing except it's of a previous FD. In this way we can see how we're doing compared to, say, last year. These graphs are updated every two minutes.

By monitoring the individual band graphs the SM can see if the rate is dropping and attempt to do something about it such as change antennas or band.

Spots

There is a mechanism whereby anyone who hears a station can post the time heard and the station's call sign and frequency to the Internet. This process is called "spotting" and each such post is called a "spot". Provided net access is available, these spots can be fed into the logging program where the op can see them listed. Instead of laboriously tuning through a band looking for stations to call the op can simply click on a spot and the radio will tune to the spotted station's frequency so the op can call it. This can speed things up a lot.

There are automated spotters in a number of locations around the world called Skimmers which can listen to an entire ham band at once (or even more than one) and spot every CW and RTTY station it hears. The Skimmer spots also include the received Signal to Noise Ratio (SNR) of the spotted station. So, if you're spotted by a Skimmer you can see how good your signal is at that location.

There is something called the Reverse Beacon Network (RBN) which will show you SNR graphs of all the spots on a band for any particular call using whichever Skimmers you select. So you enter your call, pick some Skimmers in an area in which you are interested and see how good your signal is there. Do the same for a competitor's call and smugly note that you're 10 dB better than he is (or not).

This is very helpful to the SM as he can see if our signal into a highly productive area is too weak and can make adjustments, such as reorienting or switching the antenna or switching bands.

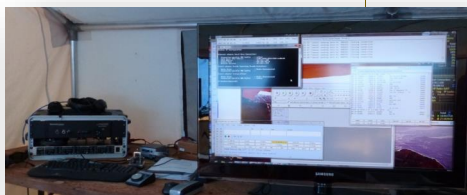


It was my intention to provide sample Athena and RBN graphs but the computer they're on died in the middle of writing this. Perhaps we'll be able to get them into the next Communicator issue

Summer 2015

It can also be used for post FD analysis of our and our competitors' signals throughout FD.

Flex Radio



Stan - VA7NF - brought his FlexRadio signature series 6700 as a station manager tool and guest attention grabber.

In this FD application it had 4 receivers set to view via panadapter and waterfall, the entire 40M, 20M, 15M, and 10M bands simultaneously. 10M was dropped and 80M added later in the evening.

The antenna for band monitoring was a Pixel broadband magnetic loop mounted on the VHF tower and fed into one of the Rx only connections.

The large screen with 6 active windows performed well as an attention grabber and conversation point as well as viewing real-time band activity. Lightly used frequencies were clearly visible for stations looking for a run frequency.

We're obviously going to have to learn how the SM can best make use of this powerful tool. One possible use is to generate our own Skimmer spots.

Thank you Stan for making this available to us.

SUMMARY

When you look at these results:

- Our best score ever
- Probable #1 VE in our Category
- Possible #1 VE regardless of Category
- Probable record VE score in our Category
- Possible #2 in NA in our Category
- Possible top 3% of ALL FD stations.

it's obvious that with our 8,080 points we have achieved something very substantial and we should all be very proud of what we have done.

Thank you and congratulations to all for a job well done. There is no doubt in my mind that a lot of people are going to be noticing our ongoing climb through the FD standings.

~ Jim Smith VE7FO





The People

Field Day Acknowledgements

What a Great Team!

Our success at Field Day was the result of a lot of hard work, commitment and the generosity of many members who deserve our profound thanks. It is especially noteworthy that some participants spent their own money on supplies and rentals but declined compensation. So, in no particular order, our Field Day crew:

Let's thank them all, in alphabetical order:

Al VE7CDC - A key member of the core planning team, he assisted with preliminary site layout and Friday setup, developed a power plan and organized portable and alternative power, provided tarps, gas and other equipment, and assisted with transportation of the yellow tower



Al VA7ALZ - Member of the core planning team. Transported club items from Anton's, Provided a fox and transceiver for the demo table, and assisted with set-up and take-down.



Anton VE7SSD - provided many of SARC's inventory items out of storage, helped get them to FD and back again, helped with antenna setup and took photos.



Arthur VE7SIE & Nicole VE7PET - Made sure cold drinks, coffee and snack items were available; they also provided site security on Friday night. Nicole made sure everyone signed the Task sheet.



Bill VE7XS—Supplied batteries for our power plan. Supplied a satellite antenna



Brett VE7GM - Participated in the core planning group and assisted Al with the development and testing of the QRP power plan..



Dixie VA7DIX—Led the social activity team and provided an interesting experience for children visiting the site.



Fred VE7IO - made his QTH available for pre-FD dry equipment testing and operated CW.



Garvin VA7YEE- Assisted with Friday night security



Heinz VA7AQ—Provided the tower and equipment for 6m operation.



Hiu VE7YXG - diligently photographed all the activities.



Howard VA7HTZ—Pitched in to help with Friday set-up.



Jan VA7VJ—Assisted with Friday set-up. Assembled antennas.



Jim VE7FO - a member of the core planning team, provided his K3 radios c/w Microham interface and computers programmed for N1MM, supplied the UPS for the N1MM computer, undertook web submission of our official score.



Jeremy VE7TMY—Assisted with set-up and take-down, and put up wire antennas.



John VE7TI - A member of the core planning team, responsible for all the publicity and invitations to public officials, advertised on social media, made the satellite contacts, created certificates and posters, transported the big tower, was M/C for the opening ceremony, and assisted with setup and take-down.



John VA7XB - Host member of the core planning team, checked and serviced wire and beam antennas, prepared site layouts, made up signs, provided his IC-7600 radio, satellite station and odds & ends, confirmed performance of antennas and feedlines once installed, led the site setup. We also thank Heather for the meeting goodies and hospitality

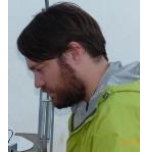


Kapila VE7KGK - provided the Internet connection and networked the computers; assisted with photography



Summer 2015

Keenan VE7XEN - worked with Kapila to provide an Internet connection, networking of computers and trouble-shooting



Kjeld VE7GP - provided gas for the generators, assisted with misc setup and take-down activities.



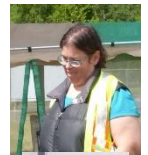
Mike VE7AT—Assisted with the security arrangements and the Information table



Mike VE7ACN - Assisted with set-up and takedown. Operated CW



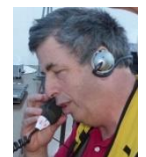
Nicole VE7PET - worked with Arthur to provide refreshments and provide Friday night security. Nicole was also very efficient at having attendees sign the PEP Task Sheet.



Peter VE7PGX - prepared and sent NTS messages



Rob VE7CZV and Elizabeth VA7ELA - Supervised and operated the VHF station.



Ron VE7VTA - Part of the opening ceremony he made some timely remarks about the role of Amateur Radio in emergencies. He came in his red serge RCMP uniform to provide color and a served agency presence.



Scott VE7HA - took care of financial matters.



Sheldon VA7XNL - Assisted with set-up and take-down, drove the man-lift and put up wire antennas. Operated SSB



Stan VA7NF - Lead member of the core planning team, took on antenna strategic planning, provided his Flex SDR radio for band monitoring, provided computers for the operators and station monitoring, transported SEPAR's trailer and equipment to the site and was the SEPAR liaison.





Competitive Team Operators:

CW Team: Mike VE7ACN, Jim VE7FO, Stan VA7NF, John VA7XB, Fred VE7IO

SSB Team: John VE7TI, Kapila VE7K GK, Alex IZ7FMM, Anton VE7SSD, Keenan VE7XEN, Sheldon VE7XNL

Thanks again this year to Dan Barnscher of Surrey Fire Services for getting us the Grandview site at no cost, to United Rentals for the man-lift, SuperSave who provided toilets free as a community service, and to Burnaby Radio for wire supplies.

Our appreciation goes out to the dignitaries that showed up and offered their time and support: Minister Stephanie Cadieux - MLA for the Cloverdale riding, MLA Marvin Hunt, Surrey Councillor Mary Martin, Dan Barnscher and Ron Casey.

Several additional members - not individually acknowledged - came out and helped with setup and take-down - as always we couldn't have done it without you.

Summer 2015



QRT

Mike Plant VE7AT—SARC President

Another Year—Another Field Day

CLUB EXECUTIVE 2015-2016

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Stan Williams VA7NF
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Bill Gipps VE7XS

Al Peterson VA7ALZ

On the Web

ve7sar.net

Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements can also be found on our web page, or via:

Twitter

[@ve7sar](https://twitter.com/ve7sar)

SARC Photos

[Web Albums](#)

or

tinyurl.com/SARCphoto

Although I was unable too take part in the setup or take down sessions due to health issues, I was lucky to be able to help with security details for the event. The commitment from all participants was an inspiration, well done everyone, and what a score!! That's going to be hard to beat.

I especially wish to acknowledge Nicole VE7PET and Arthur VE7SIE for their total commitment, greeting visitors and making sure everyone was doing OK the entire event. Well done guys.



New Ham

On Field Day, our newest Industry Canada designated Examiner, Mike Plant administered the Basic exam to Howard Brydle on-site. Howard passed, selected the callsign VE7HKB and promptly joined SARC. Congratulations Howard, welcome to the hobby and the club.





See You in September!!

Our first meeting of the 2015-2016 season will be on September 9th at 7pm at the Emergency Management BC PREOC, 14275 96th Avenue, Surrey. We will once again have an on-site swap meet so clean out those drawers, basements and shacks and bring it down to the meeting.

Remember to support our fund-raising sale of raffle tickets for the Cruise-In and please volunteer for the event on Saturday, September 12th. More in the September Communicator.

We will meet again socially at the McDonald's 72nd Ave & King George on Wednesday, August 12th at 7pm. This is in lieu of a monthly meeting.

Remember the weekly club breakfast at the Kalmar Family Restaurant at King George Blvd & 81st Avenue, Surrey every Friday at 8am.

Down The Log...

SARC Monthly Meetings

2nd Wed. (Sept-Jun)
1900 hrs at the
Emergency Mgmt BC
PREOC,
14275 96th Avenue,
Surrey, BC

Weekly Club Breakfast

Friday at 0800 hrs
Kalmar Family
Restaurant at
King George & 81st
Surrey

SARC Net

Tuesday at 2000 hrs
local
on 147.360 MHz (+)
Tone=110.9

SEPARS Net

Tuesday at 19:30 hrs
local
on 147.360 MHz (+)
Tone=110.9

SEPARS Monthly Training

4th Tuesday of each
month, 1900-2100 hrs
14923—64th Ave, next
to Firehall #9, Surrey.

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228. On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 and Echo-Link Node 1736

	SEPARS Net	SARC Net
1st Tuesday	Drew VA7DRW Jay VE7KC Stdbby	Drew VA7DRW Brett VE7GM Stdbby
2nd Tuesday	Dixie VA7DIX Alan VA7BIT Stdbby	Jinty VA7JMR
3rd Tuesday	Rob VE7CZV	Rob VE7CZV
4th Tuesday	Jinty VA7JMR Dixie VA7DIX Standby	John VA7XB
5th Tuesday	Jinty VA7JMR	Elizabeth VE7ELA
Want a turn at Net Control? Contact the SARC Net Manager VE7CZV @ separs.net		



We Have A SARC Patch!

These are suitable for sewing on a jacket, cap or your jammies, so you can proudly display your support for the club.

The price is \$4 each or three for \$10 and they can be picked up at the meeting or a Friday morning breakfast.



Sponsoring SARC & SEPAR's portable toilets for Field Day

*We thank our sponsors
for their support of
SARC-SEPAR Field Day.
Please support them.*

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